CLAIMS

What is claimed is:

1. A communication network for collecting and communicating data, comprising:

a wireless access device comprising a control circuit and a first RF transceiver that selectively operates in one of a plurality of spread spectrum modes;

at least one mobile terminal comprising a second RF transceiver that operates in at least one of a plurality of spread spectrum modes; and

the control circuit responsive to transmissions received from the first RF transceiver for evaluating communication performance and dynamically selecting one of the plurality of spread spectrum modes of the first RF transceiver while taking into consideration at least one of the plurality of spread spectrum modes of the second RF transceiver.

2. The communication network of claim 1 wherein the plurality of spread spectrum modes of the first RF transceiver comprising a direct sequence transmission mode and a frequency hopping mode.

3. The communication network of claim 1 wherein the plurality of spread spectrum modes of the first RF transceiver comprising a direct sequence transmission mode and a channelized direct sequence mode.

4. The communication network of claim 1 wherein the plurality of spread spectrum modes of the first RF transceiver comprising a frequency hopping mode and a hybrid frequency hopping mode.

5. The communication network of claim 1 wherein said first RF transceiver operates to support a communication channel and a busy/control channel on a timeshared basis.

6. In a communication network, a plurality of wireless access device capable of communicating with a plurality of wireless terminals, each of the plurality of wireless access device comprising:

a first radio controllable to support a communication channel operating pursuant to one of a plurality of modes;

a second radio supporting a busy/control channel independent of the communication channel;

a controller that selects one of the plurality of modes and controls the first radio to support the selection; and

the controller utilizes the second radio to communicate on the busy/control channel to manage the communication channel.

7. In the communication network of claim 6, wherein the plurality of modes includes a plurality of spread spectrum modes.

8. In the communication network of claim 7, wherein the first radio comprises a multimode radio and the second radio comprises a transmitter.

9. In a communication network, a plurality of wireless access device capable of communicating with a plurality of wireless terminals each of the plurality of wireless access device comprising:

a transceiver controllable to operate pursuant to any of a plurality of communication modes;

a controller that selects from the plurality of modes a communication channel and an independent, busy/control channel; and

the controller controls the transceiver to support data routing on the communication channel while managing access to the communication channel while managing access to the communication channel via the busy/control channel.

10. In the communication network of claim 9, wherein the plurality of communication modes includes a plurality of spread spectrum modes.

11. An access point for communicatively coupling a first roaming wireless device and a second roaming wireless device to a wired link, the access point comprising:

a housing;

a control circuit disposed in the housing;

a wired transceiver, disposed in the housing, that is communicatively coupled to the control circuit and the wired link;

a first wireless transceiver, disposed in the housing, that is communicatively coupled to the control circuit, the first wireless transceiver operating on a first wireless communication channel to communicatively couple with the first roaming wireless device;

a second wireless transceiver, disposed in the housing, that is communicatively coupled to the control circuit, the second wireless transceiver operating on a second wireless communication channel to communicatively couple with the second roaming wireless device; and

the control circuit accommodates communications between the first wireless transceiver and the second wireless transceiver exclusive of the wired link.

12. The access point of claim 11, further comprising a bus interface communicatively coupling the control circuit to the first and second wireless transceivers and the wired transceiver.

13. The access point of claim 12, wherein the bus interface is substantially compliant with a bus standard.

14. The access point of claim 13, wherein the bus standard is the PCI standard.

15. The access point of claim 11, wherein the wired transceiver accommodates communication with an ethernet network.

16. The access point of claim 11, wherein the wired transceiver accommodates communication with a token-ring network.

17. The access point of claim 11, wherein the wired transceiver accommodates communication with an asynchronous transfer mode network.

18. The access point of claim 11, wherein the wired transceiver accommodates communication with a packetized network.

19. The access point of claim 11, wherein the first wireless transceiver supports a substantially non-deterministic media access protocol and the second wireless transceiver supports a substantially deterministic media access protocol.

20. The access point of claim 11, wherein the first wireless transceiver and the second wireless transceiver support substantially distinct non-deterministic media access protocols.

21. The access point of claim 11, wherein the first wireless transceiver and the second wireless transceiver operate independently to form a first communication cell and a second communication cell.

22. The access point of claim 11, wherein the control circuit synchronizes transmissions on the first radio channel and the second radio channel to minimize conflicts between transmissions on one wireless transceiver and receipts on the other wireless transceiver.

23. The access point of claim 11, wherein the wired link is a local area network.

24. An access point for establishing communications with a wired link, the access point comprising:

a first wireless transceiver operating to establish a first wireless cell;

a second wireless transceiver operating to establish a second wireless cell;

the first and second wireless transceivers being located such that the first and second cells are substantially overlapping;

a control circuit that communicatively couples the first and second wireless transceivers to one another;

a wired transceiver that communicatively couples the control circuit to the wired link; and

the control circuit communicatively couples the first wireless transceiver and the wired transceiver.

25 The access point of claim 24, wherein the first and second wireless transceivers each comprise processing circuitry that supports a communication protocol.

26. The access point of claim 24, wherein the control circuit allows communications between the first wireless transceiver and the second wireless transceiver exclusive of the wired link.

27. The access point of claim 24, wherein the first wireless transceiver supports a substantially non-deterministic media access protocol and the second wireless transceiver supports a substantially deterministic media access protocol.

28. The access point of claim 24, wherein the first wireless transceiver and the second wireless transceiver support substantially distinct non-deterministic media access protocols.

29. A communication network comprising:

a wired LAN;

a plurality of access point coupled via the wired LAN, each of the plurality of access points comprising:

a housing;

a control circuit disposed in the housing;

a wired transceiver, disposed in the housing, that is communicatively coupled to the control circuit and the wired link;

a first wireless transceiver, disposed in the housing, that is communicatively coupled to the control circuit and the first roaming wireless device, the first roaming wireless device operating on a first wireless communication channel; and

a second wireless transceiver, disposed in the housing, that is communicatively coupled to the control circuit and the second roaming wireless device, the second roaming wireless device operating on a second wireless communication channel; and

the control circuit accommodates communications between the first wireless transceiver and the second wireless transceiver exclusive of the wired link;

a first roaming wireless device comprising a third wireless transceiver that operates on the first wireless communication channel; and

a second roaming wireless device comprising a fourth wireless transceiver that operates on the second wireless communication channel.

30. The communication network of claim 29, wherein the first roaming device operates only on the first wireless communication channel.

31. The communication network of claim 29, wherein the first roaming wireless device and the second roaming wireless device have different transmission characteristics.

32. The communication network of claim 29, wherein the first roaming wireless device and the second roaming wireless device incorporate different data throughput capabilities.

33. The communication network of claim 29, wherein the first roaming wireless device and the second roaming wireless device operate independently to form a first communication cell and a second communication cell, respectively.

34. The communication network of claim 29, wherein the radius of the first communication cell substantially equals the radius of the second communication cell.

35. The communication network of claim 29, wherein the wired transceiver accommodates communication with an Ethernet network.

36. The communication network of claim 29, wherein the wired transceiver accommodates communication with a token-ring network.

37. The communication network of claim 29, wherein the wired transceiver accommodates communication with an asynchronous transfer mode network.

38. The communication network of claim 29, wherein the wired transceiver accommodates communication with a packetized network.

39. The communication network of claim 29, wherein the first wireless transceiver supports a substantially non-deterministic media access protocol and the second wireless transceiver supports a substantially deterministic media access protocol.

40. The communication network of claim 29, wherein the first wireless transceiver and the second wireless transceiver support substantially distinct non-deterministic media access protocols.

41. The communication network of claim 29, wherein the third wireless transceiver is a PCMCIA card.

42. A communication system, comprising:

a wired LAN;

a plurality of access point coupled via the wired LAN, each of the plurality of access points comprising:

a housing;

a control circuit disposed in the housing;

a wired transceiver, disposed in the housing, that is configurable to communicatively couple the control circuit to a wired local area network;

a first wireless transceiver, disposed in the housing, that is communicatively coupled to the control circuit, the first wireless transceiver operating pursuant to a substantially deterministic, time bounded wireless communication protocol; and

a second wireless transceiver, disposed in the housing, that is communicatively coupled to the control circuit, the second wireless transceiver operating pursuant to a substantially non-deterministic contention access wireless communication protocol; and

a plurality of roaming wireless devices that each wirelessly communicate with at least one of the first and second wireless transceivers.